

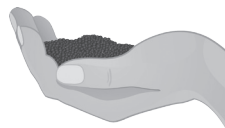
How to Grow a Plant from a Bean as a Science Project

Growing a bean plant is a simple science experiment that can be accomplished with very little preparation. Additional variables can be used to expand the experiment. Determine how much sunlight is optimal by placing plants in sun, partial sun and dark to grow and measure the growth needs. Test the optimal amount of water needed or the best depth to plant at by changing these variables in the experiment.

Things you'll need:



Clear plastic cup or glass



Potting soil



Bean seed
(2 per cup)



Marker



Water

1. Fill the cup three-fourths full of potting soil. If the experiment is testing other or variables such as sunlight, water or temperature, fill enough cups for each variable. Create one cup for a control.
2. Press beans into soil approximately 1 inch apart to a depth of 2 inches for the control cup. Additional cups can be planted according to the variables being tested.
3. Water thoroughly and place in a sunny spot. Monitor beans for growth.

TIP

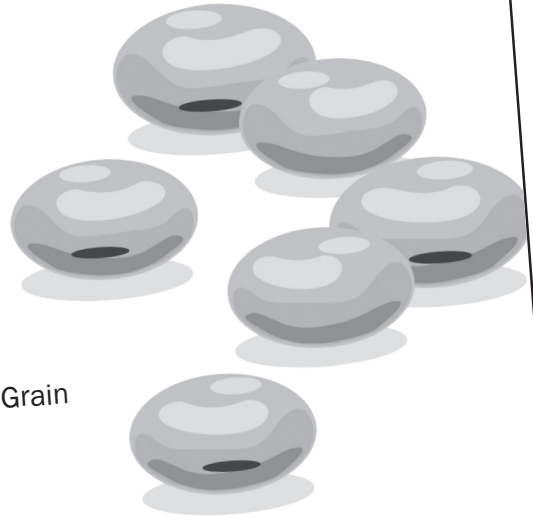
- Using a clear plastic glass will allow students to better observe the growth of the roots. Plant the seed close to the edge of the glass for better viewing of root development.

RECIPE

IDAHO BLACK BEAN SALSA

- 1 1/2 cup black beans, cooked and drained
- 1 1/2 Great Northern beans, cooked and drained
- 1 large tomato, chopped
- 1 small onion, chopped
- 1/4 cup fresh chopped cilantro
- 1 Tbsp. chili powder
- 1 1/2 tsp. ground cumin
- 1/2 tsp. ground red pepper

Combine all ingredients, mix well. Serve with Whole Grain Tortilla Chips



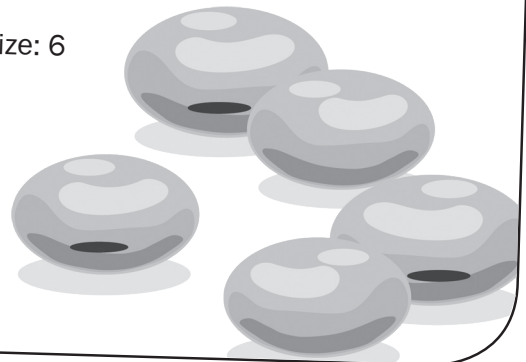
RECIPE

LAYERED BEAN DIP

- 32 ounces low-fat refried beans
- 4 ounces green chiles, chopped and drained
- 1 envelope taco seasoning mix
- 2 ripe avocados, peeled and pitted
- 2 tablespoons lemon juice
- 16 ounces taco sauce, divided
- 1 1/2 cups low fat sour cream
- 3 cups lettuce, shredded
- 6 ounces cheddar cheese, shredded
- black olives, sliced
- Whole grain tortilla chips

In a medium bowl, mix together refried beans, green chilies and taco seasoning mix. Spread on a 12-inch round serving platter. Blend avocados, lemon juice and 1/2 cup taco sauce until smooth. Spread sour cream on top of avocado mixture. Top with shredded lettuce, cheese, taco sauce and olive slices. Serve with tortilla chips.

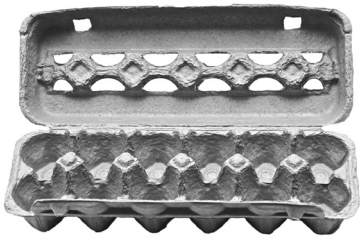
Serving Size: 6



Make a Homemade Mancala Game

The game Mancala is a fun, easy-to-learn, two-player game that is played around the world. Most mancala games are made with a special board and pieces. However, with a few simple objects around the house, you can make your own mancala game for free.

What you'll need: In order to play the game you will need these items...



* AN EMPTY EGG CARTON



* 48 DRY BEANS FOR PLAYING PIECES

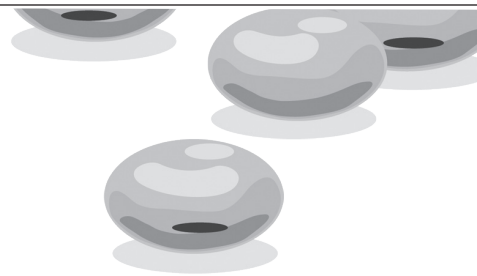
How to set up: To set up the game, first cut off the top of your egg carton. Next, place 4 of each of the playing pieces (“beans”) into each of the compartments or “pits” of your egg carton. Next, place a small cup on both ends of the egg carton.

To begin: Players sit across from each other, with the egg carton and cups in between them. Each player should be facing his or her side of the playing area, with the cup to their right being the players’ “store.”

Playing the game: To begin, one player chooses a pit of beans and takes them in his or her hand. The player then “sows” the beans counter-clockwise by placing one bean in each successive pit until all the beans are gone. As the players sow, they will place a bean in their own store, but will always skip their opponent’s store. When the last bean in a player’s hand lands in his own store, the player gets an extra turn. In addition, if a player’s last bean ends in an empty pit, the player then gets to “capture” the beans that are in the pit directly across from where this last bean landed. All of the beans in that pit as well as the capturing piece go into the player’s store. Beans placed in the store are points for that player. The game is over when one side of the board is empty. The player with beans leftover gets to put these beans in his or her store. The player with the most beans in his store at the end of the game wins.

frugal.families.com/blog/make-a-homemade-mancala-game

“Using Your Bean”



Le’go My Legume!

Another word for dried beans and peas is legumes. Legumes start out like regular beans and peas, but instead of being picked when they are ripe, they are left to dry in their pods. Like meat, legumes are high in protein. But they have some other things going for them that meat does not. Legumes are:

- Very low in fat
- High in fiber
- Low in cost
- High in carbohydrates
- Easy to store

There are hundreds of different kinds of legumes. Here are just a few of them. Check the ones you have tried.

- ☐ Great Northern Beans
- ☐ Navy Beans (White)
- ☐ Pinto Beans
- ☐ Soy Beans (or Tofu)
- ☐ Kidney Beans
- ☐ Lentils
- ☐ Green or Yellow Split Peas
- ☐ Black-Eyed Peas
- ☐ Garbanzos (Chick Peas)

Winning Combinations

Q. What do puzzles and proteins have in common?

A. They are both made up of many separate parts.

Puzzles are made up of puzzle pieces. When all the pieces are fitted together, they make a complete picture. Proteins are made up of parts called amino acids. When all the amino acids are fitted together, they make a complete protein.

Feeling Good, Looking Good

When you eat legumes, you get

- **Protein** for building and repairing cells in all parts of the body (including brain, hair, and nails).
- **B-vitamins** for energy and healthy skin.
- **Iron** for healthy, red blood.
- **Fiber** to prevent constipation and heart disease.

Protein Pairs

Important: In order for protein to do its many important jobs in our bodies, it must be complete. Legumes and nuts do not have all the amino acids needed to make them a complete protein. To make them a complete protein, eat them with

- the bread and cereal group
- the meat group
- the milk and cheese group

What winning combinations can you come up with? Fill in the blanks below. **EXAMPLE:** Peanut butter with bread = a complete protein.

Beans with _____

Split peas with _____

Lentils with _____

